


## AMENDMENTS TO THE CLAIMS:

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1.(currently amended): A communication protocol processing unit formed by a multiprocessor, comprising:

a first processor for performing a process ~~demanding a~~ in real time ~~property~~ on a stream of communication data, and renewing parameters; and

a second processor for receiving data to be processed together with the renewed parameters, which are transferred from the first processor, and performing a process not demanding the in non-real time property, for the data by referring to the renewed parameters wherein

 the first processor ~~transfers using parameters paired with the communication data to be processed to the second processor, and the second processor is structured so as to refer to the transferred communication data and parameters to process.~~

2.(currently amended): The communication protocol processing unit formed by a multiprocessor according to claim 1, wherein

the parameters are state transitional information, statistical information, or various setting information which is needed for a process excluding the communication data.

3.(currently amended): The communication protocol processing unit formed by a multiprocessor according to claim 1, further comprising:

a ~~processing~~ queue provided between the first and second processors, for storing a pair of the ~~communication data~~ to be processed and the renewed parameters.

4.(currently amended): The communication protocol processing unit formed by a multiprocessor according to claim 3, wherein

the first processor ~~is structured so as to generate~~ generates a processing demand signal for demanding the processing to the second processor,

before the first processor generates the processing demand signal, the communication data and parameters are first unconditionally transferred to the ~~processing~~ queue, and

the ~~processing~~ queue can independently display validity/invalidity of the transferred data to the ~~processing~~ queue according to presence or absence of the processing demand signal from the first processor.

5.(currently amended): A communication protocol processing unit formed by a multiprocessor comprising:

a plurality of first processors arranged in series to pipeline-process for performing a process ~~demanding a~~ in real time ~~property~~ on a stream of communication data, and each of the plurality of first processors renewing parameters; and

a second processor for receiving data to be processed together with the renewed parameters, which are transferred from the plurality of first processors, and performing a process ~~not demanding the~~ in non-real time property, for the data by referring to the renewed parameters, wherein

~~each of the first processors transfers using parameters paired with the communication data to be processed to the second processor, and the second processor is structured so as to refer to the transferred communication data and parameters to process.~~

6.(currently amended): The communication protocol processing unit formed by a multiprocessor according to claim 5, further comprising a queue provided between the first and second processors for storing a pair of the data to be processed and the renewed parameters wherein

each of the plurality of first processors ~~is structured so as to generate the~~ generates a processing demand [[to]] for the second processor, and forward the processing demand and the renewed parameters to the latter ~~step~~ stage of the first processor, and ~~transfer~~ the last stage of the first processor collectively transfers the processing demands to the processing queue collectively at the final step.

7.(currently amended): The communication protocol processing unit formed by a multiprocessor according to claim 5, further comprising:

a queue provided between the first and second processors for storing a pair of the data to be processed and the renewed parameters, wherein

each of the plurality of first processors generates ~~the~~ a processing demand [[to]] for the second processor, and further transfers the ~~communication data to be processed and or the renewed~~ parameters to the ~~processing~~ queue unconditionally, and thereafter the queue can judge independently validity/invalidity of the data transferred to the ~~processing~~ queue according to presence or absence of the processing demands.

8.(currently amended): The communication protocol processing unit formed by a multiprocessor according to claim 6, wherein

the processing demands and the renewed parameters are structured so as to be ~~laminated~~ accumulated in each of the plurality of first processors.

9.(currently amended): The communication protocol processing unit formed by a multiprocessor according to claim 7, wherein

the processing demands and the renewed parameters are structured so as to be ~~laminated~~ accumulated in each of the plurality of first processors.

10.(currently amended): The communication protocol processing unit formed by a multiprocessor according to ~~any one of~~ claim ~~[[2]]~~ 3, wherein

the ~~communication~~ data to be processed are directly transferred to the ~~processing~~ queue not via the first processor with reception of the communication data as an event.

11.(currently amended): A communication protocol processing unit formed by a multiprocessor according to ~~any one of~~ claim 1, further comprising:

a queue for storing ~~the~~ processing results of the second processor ~~in between the first and second processors~~; and

a selection circuit ~~as means for overwriting~~ replacing the communication data on a stream ~~to~~ with the processing results of the second processor, ~~whereby~~ wherein

the first processor accesses to read the queue, and switches a selection route of the selection circuit to a side of the queue if the data are accumulated in the queue.

12.(currently amended): The communication protocol processing unit formed by a

multiprocessor according to claim 11, further comprising:

a register indicating whether or not data are accumulated in the queue for storing the processing results of the second processor; and

a readout control circuit for reading out the data accumulated in the queue, wherein the first processor does not access the queue, and reads out a set status of the register, thereby recognizing a data accumulation of the queue, and

wherein the readout control circuit is ~~accumulated~~ accessed when the data are accumulated, and reads out the data of the queue not via the first processor.

13.(currently amended): The communication protocol processing unit formed by a multiprocessor according to ~~any one of~~ claim 6,

wherein a timing for forwarding the processing demands and the renewed parameters by each of the plurality of first processors is taken with next reception of the communication data as the event.

14.(new): The communication protocol processing unit formed by a multiprocessor according to claim 6, wherein

the data to be processed are directly transferred to the queue not via the first processor with reception of the communication data as an event.

15.(new): The communication protocol processing unit formed by a multiprocessor according to claim 7, wherein

the data to be processed are directly transferred to the queue not via the first processor with reception of the communication data as an event.